Further ornithological exploration of Namuli and Mabu Mountains (northern Mozambique), and the urgent need to conserve their forests

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Nouvelles découvertes ornithologiques dans les montagnes de Namuli et Mabu (nord du Mozambique), et la nécessité urgente de protéger leurs forêts. Cet article présente les résultats de deux expéditions récentes au Mont Namuli (novembre 2007) et au Mont Mabu (octobre 2008) au Mozambique, au cours desquelles plusieurs espèces menacées et d'intérêt biogéographique ont été découvertes. Des corrections sont apportées à la liste des oiseaux présentée pour Namuli par Ryan *et al.* (1999a), et les densités d'espèces proposées par ces auteurs sont revues nettement à la baisse. Le massif de Mabu est recouvert de la plus grande forêt d'altitude moyenne de la région, *c.*60–70 km² entre 1.000 et 1.650 m. Cette forêt est assez peu menacée contrairement aux fragments qui subsistent à Namuli, à plus haute altitude (principalement 1.600–1.900 m) et totalisant environ 13 km². Bien que l'Apalis de Namuli *Apalis* (*thoracica*) *lynesi* et la Grive-akalat tachetée *Modulatrix orostruthus* viennent d'être découvertes à Mabu, elles y sont très rares, donc il est urgent de sauver ce qui reste de la forêt de Namuli où ces espèces sont nettement plus communes. La forêt de Mabu, par contre, est très importante pour la sauvegarde de l'Alèthe de Cholo *Alethe choloensis* et la race *belcheri* du Barbican olivâtre *Stactolaema olivacea* (deux espèces beaucoup plus nombreuses qu'à Namuli), ainsi que de l'Akalat de Swynnerton *Swynnertonia swynnertoni* (nouveau pour le nord du Mozambique) et l'Akalat de Gunning *Sheppardia gunningi*. La Grive terrestre tachetée *Zoothera guttata* niche probablement dans les deux massifs. La forêt de Mabu abrite aussi les plus importantes populations au niveau régional du Pigeon de Delegorgue *Columba delegorguei*, Calao à joue argent *Bycanistes brevis*, Barbican olivâtre, Echenilleur gris *Coracina caesia* et Loriot à tête verte *Oriolus chlorocephalus*. Quelque 127 espèces sont connues de Mabu.

Summary. Several species of conservation concern or biogeographical interest were discovered during two recent expeditions to Mount Namuli (November 2007) and Mount Mabu (October 2008) in Mozambique. Corrections are made to the list of species presented for Namuli by Ryan *et al.* (1999a), and densities of species proposed by the same authors must be revised downward by a factor of 5–30. The Mabu massif is covered with the most extensive mid-altitude rain forest in the region, of *c.*60–70 km² between 1,000 and 1,650 m. This forest is not seriously threatened at present, unlike those higher altitude remnant fragments on Namuli (mainly at 1,600–1,900 m), totalling some 13 km². Although Namuli Apalis *Apalis* (*thoracica*) *lynesi* and Dapple-throat *Modulatrix orostruthus* have recently been discovered on Mabu, they are very rare there and it is therefore urgent to save the forest remnants on Namuli where these two species occur at much higher densities. The forest on Mabu is, on the other hand, of the utmost importance for preserving the endangered Cholo Alethe *Alethe choloensis* and the race *belcheri* of Green Barbet *Stactolaema olivacea*, as these two species are much more numerous than at Namuli, as well as Swynnerton's Robin *Swynnertonia swynnertoni* (new for Mozambique) and East Coast Akalat *Sheppardia gunningi*. Spotted Ground Thrush *Zoothera guttata* probably breeds on both massifs. Mabu Forest holds the most important regional populations of Eastern Bronze-naped Pigeon *Columba delegorguei*, Green Barbet, Grey Cuckooshrike *Coracina caesia* and Green-headed Oriole *Oriolus chlorocephalus*. Some 127 species are known to occur at Mabu.

Mount Namuli is the largest massif in Mozambique north of the Zambezi, with a granitic dome rising to 2,419 m. It lies 160 km north-east of Mount Mulanje in Malawi (3,002 m), the tallest mountain in south-central Africa. Mount Mabu, situated 160 km south-west of Namuli and 90 km south-east of Mulanje, is lower (peak 1,710 m) but more extensively forested; it is 70 km east-north-east of Mount Chiperone (2,054 m), the second-tallest massif in northern Mozambique (Fig. 1). Mulanje has the widest altitudinal range of forest, from 700 to 2,300 m, but the largest block of forest on the wetter, south-eastern slopes was illegally destroyed for farms, up to the level of 1,600 m; total forest cover was recently estimated at just less than 70

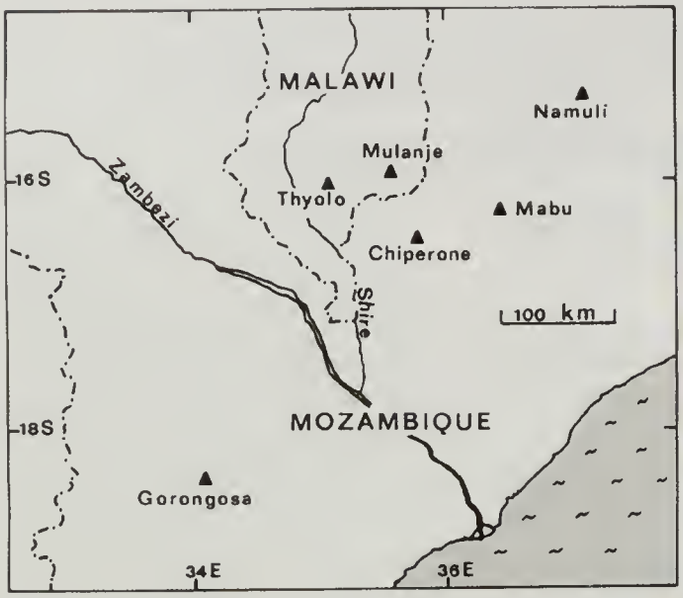

Figure 1. Map showing main massifs in southern Malawi and adjacent Mozambique.

Carte montrant les principaux massifs montagneux du sud du Malawi et Mozambique voisin.

Figure 3. Summit of Mount Namuli, with Ukalini Forest in the saddle below (Jonathan Timberlake)

Sommet du Mont Namuli, avec la forêt d'Ukalini sur le replat en dessous (Jonathan Timberlake)

Figure 5. Extensive undulating forest on Mount Mabu, asseen from near the peak (Julian Bayliss)

La forêt du Mont Mabu s'étend à perte de vue, comme ici près du sommet (Julian Bayliss)

Figure 2. Part of Manho Forest, the largest patch on Namuli (Jonathan Timberlake)

Une partie de la forêt de Manho, le bloc le plus étendu à Namuli (Jonathan Timberlake)

Figure 4. Muretha Plateau, with mosaic of forest patches and grassland, and Namuli peak in the background (Françoise Dowsett-Lemaire)

Plateau de Muretha, avec mosaïque de petites forêts et prairies, et le sommet de Namuli au fond (Françoise Dowsett-Lemaire)

Figure 6. Specimens of Bar-throated Apalis *Apalis thoracica* of the subspecies *flavigularis* (above) and of Namuli Apalis *Apalis* (*thoracica*) *lynesi* (Lincoln Fishpool © Natural History Museum, Tring)

Spécimens de l'Apalis à gorge barrée *Apalis thoracica* de la race *flavigularis* (en haut) et de l'Apalis de Namuli *Apalis* (*thoracica*) *lynesi* (Lincoln Fishpool © Natural History Museum, Tring)

km² (Dowsett-Lemaire & Dowsett 2006: 81). The forest remaining around Namuli peak covers *c.*13 km², most of it above 1,600 m. The forest on Mabu, covering 60–70 km² at elevations of *c.*1,000 to 1,650 m, represents the largest single block of mid-altitude forest in Mozambique and in the wider region.

While Mount Namuli has been visited by several ornithologists, commencing with Vincent in 1932 (Vincent 1933, 1933–36), and followed by Ryan *et al.* (1999a, 1999b), the avifauna of Mabu was entirely unknown until December 2005, when C. Spottiswoode and colleagues spent four days in the foothills and lower slopes, up to 1,220 m (Spottiswoode *et al.* 2008). In 2007–08 a multidisciplinary team of scientists supported by the Darwin Initiative (UK) visited Namuli and Mabu. Demey (2007) took part in the first expedition to Namuli, on 22 May–5 June, while I was part of the second, on 14–27 November 2007, and participated in the survey of Mabu on 10–30 October 2008, with R. J. Dowsett and L. D. C. Fishpool (the latter on 17–29 October only). In November 2007, K. Cook from the Natural History Museum, Tring, collected 49 birds of 20 species on Namuli. It should also be mentioned that staff from Chicago's Field Museum collected birds at Namuli in July–August 2003, and for three months in 2004, based on Muretha Plateau (J. Bayliss *in litt.* 2009). The results of these collections have never been published, but a list of specimens for 2003 was placed on the museum's website (http://fm1.fieldmuseum.org/birds/brd_index.php, accessed 30 January 2008); details of the 2004 collections remain unavailable.

Vincent collected two bird species new to science on Namuli: the enigmatic Dapple-throat *Modulatrix orostruthus* and Namuli Apalis *Apalis* (*thoracica*) *lynesi*. The latter is a close relative of Bar-throated Apalis *A. thoracica* and until recently was considered endemic to Namuli; the former is represented by the nominate form, another two races having been discovered subsequently on mountains in central and northern Tanzania (Keith *et al.* 1992). Vincent also discovered populations of the (now) Endangered Cholo Alethe *Alethe choloensis* (a species endemic to south-eastern Malaŵi and adjacent Mozambique) and of the race *belcheri* of Green Barbet *Stactolaema olivacea*, shared with Thyolo Mountain in southern Malaŵi, which is now almost wholly deforested (Dowsett-Lemaire & Dowsett 2006). From a week's survey in late 1998, Ryan *et al.* (1999a, 1999b) proposed exceptionally high density estimates of the more frequent bird species. Two other visits (by M. Melo *et al.*, in December 2001, and R. Demey) were respectively too short or at the wrong season to study bird densities. Thus, one of the main purposes of the present survey was to re-evaluate the densities of those key species for which the conservation of Namuli is especially important.

The preliminary survey of Mabu by Spottiswoode *et al.* (2008) located two threatened bird species, Cholo Alethe and East Coast Akalat *Sheppardia gunningi*, but much remained to be explored, especially at higher altitudes. October, at the end of the dry season, was chosen for this survey for at least two reasons: it normally coincides with the start of the breeding season in this part of Africa (*cf.* Dowsett-Lemaire & Dowsett 2006) and it was hoped that access and exploration would not be impaired by heavy rain.

Notes on selected species are followed by a full list of bird species recorded at Mabu (Appendix 2), preceded by a Gazetteer (Appendix 1). Ryan *et al.* (1999a) presented a consolidated species list for Namuli; some important additions or corrections are mentioned here; others are given in Dowsett-Lemaire (2008b).

Site description and location of surveys

Namuli

The massif is part of a fairly extensive plateau 40 × 50 km wide, at 1,100–1,200 m, rising above the peneplain at 600–700 m. Access is via the small town of Gurue, on the southern side. From the tea estates above Gurue a rough road leads to the Malema River, met at an altitude of 1,250 m. The vegetation is a mosaic of forest, grassland and large granitic domes. The semi-forested plateau south of the Malema Valley has yet to be explored by any naturalist and the remnant forest patches there are in the process of being destroyed by shifting cultivation and fires. The forest nearer the peak, visited by Vincent and others, is of the order of 1,300 ha, most of it comprising a large dissected block on the south-western slopes of Muretha Plateau called Manho Forest, *c.*1,000–1,100 ha in extent (Fig. 2). Manho Forest is typically Afromontane, dominant emergent trees at 1,600–1,850 m being *Cryptocarya liebertiana*, *Faurea*

wentzeliana and *Olea capensis* (25–30 m tall). The second-largest block of forest lies in the Ukalini saddle, lodged against the base of the Namuli dome itself, at 1,580–1,750 m, with galleries ascending to *c.*1,900 m: the whole covers *c.*100 ha (Fig. 3). The most extensive grassland (*c.*170 ha) is on Muretha Plateau at 1,800–1,900 m. Much of this is seasonally water-logged, on black peaty soil, and the tussocky nature of this grass makes walking very difficult, except on old game tracks now used by domestic goats. Muretha Plateau is dotted with small forest patches (in which *Myrica humilis*, *Prunus africana* and *Syzygium cordatum* are common), often of 1–2 ha (Fig. 4). Montane shrubland is of limited extent and floristically poor, patches of bracken *Pteridium aquilinum* also occur in the vicinity of forest or on slopes above the wet grassland.

Strips of riparian forest (with *Albizia adianthifolia*, *Newtonia buchananii* and *Parinari excelsa* the dominant large trees) occur on the lower slopes, mainly at 1,150–1,450 m, e.g. along the Malema River, and the Nanchili stream that descends from Ukalini. These mid-altitude forests were formerly more extensive, but had already been greatly reduced by the late 1960s, when aerial photos were taken. They continue to regress as a result of fires and direct logging; in November 2007 some new maize fields had been planted in place of forest right beside the Malema and Nanchili streams. Away from the forested gullies some trees have survived the fires and locally form a type of evergreen woodland dominated by *Syzygium cordatum*; this *Syzygium* may form a closed canopy adjacent to riparian forest. *Syzygium* woodland is what was called 'miombo' by Ryan *et al.* (1999a, 1999b, *cf.* their photo 2), but there is no miombo (*Brachystegia*) woodland on Namuli.

Vincent (1933) camped from 21 July to 10 August 1932 at 1,400 m on the Nanchili stream, just below the Ukalini shelf. He collected *c.*250 specimens of 53 species from 1,370 m to nearly 2,000 m, and made observations on an additional dozen species. Ryan *et al.* (1999a, 1999b) visited on 27 November–4 December 1998, using two different camp sites on the Nanchili stream (at 1,170 and 1,250 m), and one at the lower edge of Ukalini Forest. From Ukalini, they spent one day visiting Muretha Plateau.

In 2007 our base camp was located on Muretha Plateau, at 1,860 m, for nine days (15–23 November), from where Manho Forest and several small patches on the plateau were investigated. In addition two nights were spent in Ukalini Forest, and two on the Malema River at 1,250 m, during which time I also explored riparian forest on the Nanchili stream. There were four big storms during our stay.

Mabu

The peak comprises a granite dome which, together with a few other granitic formations, rises above a sea of undulating forest (Fig. 5). The lower slopes are covered in transition woodland, riparian forest (down to at least 300 m), cultivation and a large expanse of neglected tea plantations (deserted in the early 1980s). The latter have developed into dense tea forest (*Camellia sinensis*) 10–12 m tall, overtopped by indigenous forest trees (mostly *Albizia adianthifolia*). Transition woodland is dominated by *Pterocarpus angolensis* at low levels, gradually replaced with increasing altitude by the evergreen *Syzygium cordatum*, up to the lower edges of the forest block around 950 m. The limit between mid-altitude and Afromontane rain forest is clearly around 1,350–1,400 m, as shown by a sudden change in tree and bird species composition. Some large trees occur throughout (e.g. *Chrysophyllum gorungosanum*, *Cryptocarya liebertiana*, *Drypetes gerrardii*, *Parinari excelsa*, *Polyscias fulva* and especially *Strombosia scheffleri*, the commonest species), while *Newtonia buchananii* and *Maranthes goetzeniana* drop out just above 1,400 m, *Albizia adianthifolia* drops out just above 1,350 m (to be replaced higher by *A. gummifera*) and *Olea capensis* appears at 1,350–1,400 m. Typical montane trees near the upper edges (1,600–1,650 m) include *Pittosporum viridiflorum*, *Prunus africana* and *Rapanea melanophloeos*. Canopy height gradually decreases from 40–45 m around 980–1,000 m to 25–30 m around 1,400 m. There are several permanent rocky streams in the forest, lined with *Cyathea* tree ferns and huge *Oreobambos* bamboos. Most of the large block of forest lies between 1,000 and 1,400 m; overall forest cover above 1,400 m is of the order of 800 ha (J. Bayliss *in litt.* 2009). Small patches of montane shrubland grow around the base of the peak; large boulders and rocky slopes are covered by scattered tufts of grass.

Spottiswoode *et al.* (2008) spent 10–14 December 2005 at Mabu, shared between the tea

and other lowland forest and the lower slopes of the main forest. In October 2008, I spent four nights at an altitude of 540 m by the old tea estate manager's house (10–12 and 29 October) when riparian forest, mixed tea forest and transition woodland were explored, and 16 nights in the rain forest, mainly around 1,000 m ('main forest camp'), with four nights also at higher levels (satellite camps near the summit at 1,400 m, and at 1,300 m north-west of the main camp). The weather was hot and dry, with the first rains falling on 21 and 26/27 October.

Notes on selected bird species

The category of threat for Red List species is based on BirdLife International (2008).

Southern Banded Snake Eagle *Circaetus fasciolatus*

Near Threatened. Mabu: this Eastern endemic was heard and seen on most days between 400 and 1,500 m (at forest edges below the peak), but mostly below 1,000 m. In forest and transition woodland. Often sings perched early morning (calling from 04.30 hrs until daybreak), and in display-flight in the warm hours of the day. Tape-recorded. Unrecorded from adjacent Malawi, its discovery at Mabu represents a small range extension: the nearest record is from Mopeia in the Lower Zambezi Valley (Hanmer 1976).

Crowned Eagle *Stephanoaetus coronatus*

No record on Namuli since Vincent (1933–36) in 1932, but, despite Ryan *et al.*'s (1999a) misgivings, one pair was still holding a territory over Manho Forest in November 2007. Given the size of the forest and the enormous territories of Crowned Eagles, it is unlikely there is more than one pair in the area. Common over Mabu Forest, which is likely to hold several pairs.

Falcons *Falco* spp.

There is a neat separation of home ranges between the three breeding *Falco* species at Namuli. A pair of Common Kestrels *F. tinnunculus* was feeding two full-grown juveniles on a small rocky outcrop above Manho Forest at 1,820 m (17–20 November); another was seen between Muretha and Ukalini. A pair of Lanner Falcons *F. biarmicus* was occupying a territory over another part of Manho Forest and adjacent grassland, around a rocky pinnacle where they were probably breeding; very aggressive towards other Lanners and larger raptors (e.g. a Booted Eagle *Hieraaetus pennatus* was attacked on 16 November). A pair of Peregrine Falcons *F. peregrinus* was breeding on the cliff of Namuli peak directly above Ukalini, with prey brought to a partner or noisy young several times daily. Ryan *et al.* (1999b) had noted Peregrine in the same area. At Mabu, only Peregrine was seen around the peak.

Guineafowls

Crested Guineafowl *Guttera pucherani* is well known to local hunters at Mabu from forest patches at low altitude, up to *c.*1,000 m. We did not encounter this species, which is much hunted and decreasing, and in danger of being exterminated. At Namuli, Helmeted Guineafowl *Numida meleagris* was encountered regularly in mid-altitude and montane forest, throughout, at 1,270–1,900 m. This is very unusual habitat for the species: is it possible that guineafowls have been pushed into marginal montane habitat by hunting pressure?

Flufftails *Sarothrura* spp.

Striped Flufftail *S. affinis* was reported from Namuli by Ryan *et al.* (1999a, 1999b), based on a bird seen in flight on Muretha Plateau. The observer (P. Ryan *in litt.* 2008) agrees that this record (repeated in Parker 2001) requires confirmation. Although Melo *et al.* (n.d.) cite the same species, their record is based on a female flushed and unidentified as to species (M. Melo pers. comm.). The only flufftail I found on Muretha Plateau is Red-chested *S. rufa*, which was heard on several occasions in the wet meadows with tall grass near the stream at base camp, and further up the valley where it appeared common. Other species characteristic of this wet type of grassland on Muretha include Broad-tailed Warbler *Schoenicola brevirostris* and Red-collared Whydah *Euplectes ardens*. Playback experiments with the songs and calls of both *Sarothrura* elicited responses from Red-chested only (tape-recorded); the characteristic territorial calls (*kuwa-kuwa-kuwa . . .*) were even imitated by an Olive Thrush *Turdus olivaceus* in its song. Thus it is probably the only flufftail on Muretha; the dry or well-drained montane grassland favoured by Striped Flufftail in the tropics is hardly available at Namuli. Striped

Flufftail is known from montane grassland in the Chimanimani Mountains (Masterson & Child 1959), but it is not clear whether it has been recorded from the Mozambique side, and there is more grassland on the Zimbabwe side. In other words, the occurrence of Striped Flufftail in Mozambique remains unproven.

Pigeons *Columba* spp.
Eastern Bronze-naped Pigeon *Columba delegorguei*. Discovered by Spottiswoode *et al.* (2008) in the foothills of Mount Chiperone, this species also occurs on Mabu, in small numbers. It was widespread in the forest canopy at 980–1,420 m. Vocal activity apparently decreased from mid October. Following deforestation at Thyolo, it is now extinct in Malawi, where it was probably no more than a scarce seasonal visitor (Dowsett-Lemaire & Dowsett 2006). The origin of the Thyolo birds was probably from this Mozambique population, still a long way from the nearest previously known populations in eastern Zimbabwe and on Mount Gorongosa (Irwin 1981, Oatley & Tinley 1989) and in central Tanzania on the Udzungwas (Stuart & Jensen 1987).

At Mabu there is very little altitudinal overlap with Rameron Pigeon *C. arquatrix*, a specialised montane frugivore which was found feeding at 1,350–1,400 m and above on the fruits of *Polyscias* and *Olea*. As the great majority of *Olea capensis* were flowering, this pigeon's population would be expected to increase the following year (as *Olea* fruit bi-annually, see also Dowsett-Lemaire 1988). It is curious that in 2007 *Olea* were also at the flowering stage at Namuli, thus 'olive years' seem to occur in alternate years on Namuli and Mabu.

Selected swift species
The most numerous swift over Namuli was African Black Swift *Apus barbatus*, which was seen daily sometimes in hundreds. Often feeding low down over the lip of Muretha Plateau, and over rock faces. In November breeding was well advanced: four pairs were feeding noisy fledglings in a cleft on a small vertical cliff above Manho (1,840 m, 20 November). In addition to the characteristic rasping screams of adults, the calls of recently fledged birds *tititititi* were heard in many flocks. By contrast, Scarce Swift *Schoutedenapus myoptilus*, an intra-African migrant, breeds later: aerial mating was observed on 20 November over Manho Forest.

Although Ryan *et al.* (1999a) did not report African Black Swift, nor did they include it in the table summarising previous records, Vincent (1933–36) had noted the species as common at 1,500–2,100 m. Neither of these two swifts was found at Mabu. Scarce Swift, in particular, could be expected to occur but the arrival of this noisy bird was perhaps delayed by the prolonged drought in the area. In adjacent Malawi most birds seen in September–October are on passage, and they do not settle in a forested area until the rains set in; aerial copulation was observed there from late October to December (Dowsett-Lemaire & Dowsett 2006).

Silvery-cheeked Hornbill *Bycanistes brevis*
No records at Namuli before November 2007, when singles or pairs were located at mid and high altitudes on three dates, possibly just passing through. Ryan *et al.* (1999a) recorded the species in a patch of forest near Gurue (1,400 m). A much larger population exists at Mabu, at 500–1,600 m. Much movement of pairs or family groups was noted across the forest, as, for example, near the main camp where they fed in a fruiting *Sapium ellipticum*, and some ate figs of *Ficus scassellatii* at 1,400 m. Appeared not to be breeding in October, when the quantity of fruit in the forest was low since, in particular, most strangler figs were not in fruit (whereas they are in Malawi at this time). The population of this hornbill has dwindled considerably in the region due to much recent deforestation in southern Malawi, so Mabu has acquired a special importance for the species.

Green Barbet *Stactolaema olivacea*
Heard by Spottiswoode *et al.* (2008) at Mabu, the species was common in the main forest at all elevations, with a few pairs also in riparian patches lower down (to 750 m). A pair observed at close range around a nest appeared to be of the race *belcheri* of Thyolo and Namuli (dark blackish head, dark olive breast contrasting with olive belly, pale brown patch behind eye inconspicuous). Mabu thus harbours the most important population of this distinctive race, in the order of several hundred pairs (probably >500). Details of brooding and feeding behaviour can be found in Dowsett-Lemaire & Dowsett (2009).

The population at Namuli is much smaller, probably just 30–40 pairs. The species is common

in the small Ukalini Forest, but scarce at Manho: only four occupied territories were located there, along the 'circuit route' crossing the whole forest. The distance between the first two territories was 700 m. There is little doubt that Green Barbets must have been formerly more numerous at Namuli, when mid-altitude forest was more extensive. Four of Vincent's eight specimens were collected at 1,400–1,500 m (K. Cook *in litt.* 2008), in what Vincent (1933–36) described as thick jungle or high forest, an area where today there is only narrow riparian forest.

Eastern Green Tinkerbird *Pogoniulus simplex*
Discovered on Namuli in November 2007, but scarce. One bird (tape-recorded) held a territory in Manho Forest at 1,720 m, covering a large area (at least 10 ha), and another was heard in *Parinari–Syzygium cordatum* forest above Nanchili stream at *c.*1,300 m. The species was not found on Mabu where, curiously, playback at 900 m provoked a strong vocal reaction from a Yellow-rumped Tinkerbird *P. bilineatus*. This may be the result of the superficial resemblance between the staccato song of Eastern Green and the rolled call of Yellow-rumped, or it might mean that Eastern Green exists somewhere in the area (but, if so, it must be rare).

There is only one previous record from Mozambique, in coastal forest in the south (a specimen from Inhambane District, 2434C1: Clancey 1971, 1996, repeated in Parker 1999). The nearest population known at present is in the highlands of Mangochi and Namizimu in south-east Malawi, which form the western limit of the species' range (Dowsett-Lemaire & Dowsett 2006). This area is very rich in mistletoes and the bird is very common there; it may be that its scarcity on Namuli is due to the lower diversity and abundance of mistletoe species. Its close relative, Moustached Green Tinkerbird *P. leucomystax*, a proven mistletoe specialist (Dowsett-Lemaire 1988), reaches the southern limit of its range on Mount Mulanje, where it is also scarce, being confined to mid altitudes where several mistletoe species occur.

Pallid Honeyguide *Indicator meliphilus*
At Mabu two were found singing in forest patches below the tea house (450 m), one in an emergent *Newtonia* and the other in *Albizia adianthifolia* and *Newtonia*, only *c.*500 m apart. Also, one heard singing in the main forest, at *c.*1,000 m. Its closest relative, Willcocks's Honeyguide *I. willcocksi* of West-Central Africa, also favours the canopy of large Mimosaceae for its song posts (Dowsett-Lemaire 2008a).

Grey Cuckooshrike *Coracina caesia*
This Afromontane near-endemic was discovered at Mabu in 2008, a few pairs being located in forest canopy at 1,000–1,400 m. In southern Malawi, the species is almost confined to Thyolo Mountain, where it is now virtually extinct. Otherwise *C. caesia* is known in the region only from Mount Chiperone (Benson 1950), 70 km distant.

Eastern Mountain Greenbul *Andropadus nigriceps*
This high-montane species reaches the southern limit of its range on the tallest massifs of south-east Malawi (Zomba / Malosa and Mulanje), and is very locally common on Namuli, but absent from Mabu. The main population on Namuli is to be found in a dozen small patches on Muretha Plateau, and at the edges of Manho Forest at 1,800–1,900 m (it is absent from the interior of Manho); it was not found at Ukalini or lower down. On Muretha single pairs occupied patches of 1.0–1.5 ha. These patches also contained single pairs of Stripe-cheeked Greenbul *A. milanjensis*, and the two species appear to be in competition. Males of both *Andropadus* occupied different song posts, and seemed to engage in counter-singing and to 'control' different sections of the forest fragments (n=4 patches, studied over a period of 14 hours). On the south-west Nyika Plateau and elsewhere in Malawi where Stripe-cheeked Greenbul is absent, the numbers of Mountain Greenbul are twice as high as where its congener also occurs (Dowsett-Lemaire 1989).

Overall, the population of this species must be quite low. Proof of this comes from the fact that K. Cook's mist-nets on Muretha caught just one Mountain Greenbul but at least nine Stripe-cheeked. Vincent (1933–36) had collected only five Mountain Greenbuls compared with 21 Stripe-cheeked, down to 1,400 m: this lower altitude suggests that some had undertaken altitudinal movements in the cold months, as also observed with a few birds in Malawi (Dowsett-Lemaire &

Dowsett 2006). Stripe-cheeked Greenbul, on the other hand, is numerous on Namuli, from 1,250 m to 1,900 m; it is also common overall on Mabu, with few at 1,030–1,100 m, but becoming very common higher, especially at 1,400–1,650 m.

Swynnerton's Robin *Swynnertonia swynnertoni*
Vulnerable. Discovered at Mabu where this montane robin occupies the higher levels of the main forest from 1,340–1,400 m to the upper limits. Unlike White-starred Robin *Pogonocichla stellata*, the species is not uniformly distributed, as it favours dense undergrowth with a high density of saplings or rank growth near streams. Some pairs were alarm-calling persistently (23–26 October), suggesting breeding had started. Reacted well to playback of its own song, but not to that from eastern Zimbabwe (on Gibbon 1991), which is similar in pattern but different in motif. The total population on Mabu, in *c.*800 ha of forest, may be 100–200 pairs.

The nearest known populations are in eastern Zimbabwe (Irwin 1981) and adjacent Mozambique (including Gorongosa: Oatley & Tinley 1989) and the Udzungwa highlands of central Tanzania (Anderson *et al.* 1997), thus its discovery on Mabu partly fills the gap between the two extremes. Mabu is *c.*350 km north-east of Gorongosa.

East Coast Akalat *Sheppardia gunningi*
Near Threatened. An Eastern endemic with a patchy distribution from coastal Kenya to coastal Mozambique, and an inland population on the northern shore of Lake Malawi and the eastern scarp of the Viphya Plateau. First discovered on Mabu by Spottiswoode *et al.* (2008) in 2005, it was locally common in pure or mixed tea forest (under indigenous canopy), dense understorey and thickets in secondary forest (400–900 m) and in the main forest block up to 1,350 m, where it favours gullies and slopes just above streams. In Malawi, East Coast Akalat and White-starred Robin are locally allopatric when breeding, the latter replacing the former at higher altitudes (Dowsett-Lemaire 1989). This also seems to be the case on Mabu where White-starred Robins occur from and above 1,350 m. Territories can be quite small (0.5–1.0 ha) but suitable habitat is patchy; hence it is difficult to estimate population size, but there may be >500 pairs. The fairly richly coloured underparts and measurements of the Mabu birds (wing-lengths of two females 68 and 69 mm, two males 74 and 76 mm, mean 71.7 mm compared to a mean of 71.3 mm from nine birds in Malawi: R. J. Dowsett) suggest that they are more closely related to the race *bensoni* of northern Lake Malawi than to coastal races, despite that the nearest population to Mabu, belonging to the nominate race, is south of the Zambezi near the Mozambique coast at *c.*18°S (Collar & Stuart 1985, Parker 2005). Birds at Mabu reacted well to playback of their own song, and also to the slightly different dialect from Malawi, but not to the dialect from coastal Kenya (tested twice with one bird).

Fishpool (2010) has since found East Coast Akalat on Mount Inago, 45 km north-east of Namuli (where it is unknown), in forest patches at 1,050–1,450 m, but the area has already suffered much deforestation as it is widely cultivated. The akalat population of northern Malawi is also locally threatened by deforestation, as the integrity of official forest reserves may not be respected: Kalwe Forest Reserve on the lakeshore has just been cleared to build a hospital (S. Bearder *in litt.* 2009). The coastal forests of southern Mozambique, including around Dondo, are disappearing fast (H. Chittenden *in litt.* 2005). Thus, the forest at Mabu is an important refuge for this species.

Cholo Alethe *Alethe choloensis*
Endangered. This ant-following specialist is very unevenly distributed on Namuli: it is common in Ukalini (at 1,600–1,750 m), where it reaches densities close to the optimum of perhaps two pairs / 10 ha. The foraging activity of army ants was indeed high in Ukalini. The situation is very different in the cooler forest of Manho, where only three pairs were located along 1.5 km of trail on the 'circuit route', on each of three different days. I did not come across any ant swarms in Manho. On Muretha, two patches (one of 1.5 ha) were each occupied by a territorial bird. At lower altitudes, at 1,200–1,400 m, it must have been common in the past, where the species is still found today, but the habitat is almost gone. Ryan *et al.* (1999a) proposed an astonishing figure of over 1,000 pairs for Namuli, based on counts along the Nanchili stream and in Ukalini. This figure appears seriously inflated, and there may be

several reasons for this: inherent methodological problems (see below), the fact that Ryan *et al.* made their counts at low altitude (where there is a problem of deforestation, hence over-crowding) and in Ukalini, while not taking into account that the situation in the much larger Manho Forest is very different. The population on Namuli (excluding the plateau south of the Malema River, which is unexplored) is probably <50 pairs.

Although Ryan *et al.* (1999a) wrote that Cholo Alethes near the Nanchili occasionally fed in 'dense *Brachystegia* woodland outside of forest', as there is no such woodland it is assumed they meant the evergreen *Syzygium cordatum* formations, which have a closed canopy immediately next to *Newtonia* / *Parinari* forest on the Nanchili (*cf.* site description above). This inaccurate statement was repeated by Collar (2005). Cholo Alethes are not known to enter woodland of any kind.

On Mabu, fortunately, Cholo Alethes are much more numerous, and the species covers a wide altitudinal range of 950–1,650 m. It is common above 1,200 m, although not evenly distributed below this elevation. The population is probably at least 1,000 pairs. On Mabu, alethes have a most distinctive contact call, a whistle rising in pitch, whereas elsewhere (Malawi and Namuli) the main contact call is a downward-inflected whistle. It was frequently heard at dawn near the main forest camp.

Orange Ground Thrush *Zoothera gurneyi*
Very common on Namuli, at 1,580–1,900 m, including Ukalini, the whole of Manho, and even in some small patches on Muretha. This thrush readily reacted to playback of its own song, but also to the 'long song' of Spotted Ground Thrush from Thyolo (obtained by E. Herrmann), which is indeed inseparable from that of its own species. Apparently absent from Mabu: repeated playback of Orange Ground Thrush elicited no reaction, at a time when the species (if present) would have been very vocal.

Spotted Ground Thrush *Zoothera guttata*
Endangered. Previously known from Mozambique from only two recent records on the coast near Maputo (Parker 2005: 310), where the species is presumably a non-breeding visitor. The few breeding localities known are in mid-altitude forest (e.g. in southern Malawi, and at Ngoye in Natal) and in the temperate forests of the Eastern Cape (H. Chittenden *in* Hockey *et al.* 2005). Rare in its tropical range (the breeding locations of birds spending the non-breeding season on the Kenyan coast are still unknown!) but common locally in eastern South Africa. Discovered on Namuli in November 2007, based on one seen in Ukalini Forest, and a three-note song tape-recorded in Manho on 18 November, at 1,720 m. This song is well known to local hunters as belonging to the 'bird with spots', and is indeed similar to the 'short song' produced by this species in Natal, or in Malawi (Lisau: pers. obs.). The scarcity of this thrush on Namuli could be explained by competition with Orange Ground Thrush, as is also possibly the case in southern Malawi. However, no such explanation can be given to explain a similar status on Mabu: a *Zoothera* 'long song' was heard just after the first rains, at two locations, at 1,000 m (28 October) and at 1,300 m (27 October). A local hunter familiar with several bird species identified Spotted Ground Thrush using Chittenden (2007) without hesitation, and also indicated that Orange Ground Thrush was unknown to him; he readily identified Cholo Alethe on the same plate as being common. Some of the local people appear to possess an outstanding knowledge of birds: all four hunters interviewed at Namuli knew both Orange and Spotted Ground Thrush; one hunter at Namuli identified without prompting all four species of apalis present on the plates of the field guide. Jali Makawa, Benson's gifted collector, came from this part of Mozambique.

The discovery of this species on Namuli and Mabu in the breeding season is the first indication that the species breeds in the mountains of Mozambique.

Olive Thrush *Turdus olivaceus*
Like Eastern Mountain Greenbul, this is another high-montane species in this part of Africa (Dowsett-Lemaire & Dowsett 2006), and is apparently absent from Mabu, and very local on Namuli. It seems to be confined to some of the small patches on Muretha: in addition to a pair collected by K. Cook, I located just one other pair, and one unmated male which sang at all hours of the day. However, a few more distant patches on Muretha and above Ukalini were not visited. The unmated bird occupied two adjacent patches

totalling just under 3 ha; it frequently imitated the song of Namuli Apalis and the territorial calls of Red-chested Flufftail in its song (tape-recorded). The second male also imitated the apalis. The fact that the unmated male failed to attract a female for the duration of our stay, at the height of the breeding season, suggests a lack of surplus individuals. Vincent (1933–36) took only one specimen, so the species was probably always rather scarce.

Namuli Apalis *Apalis* (*thoracica*) *lynesi*
Near Threatened. *A.* (*t.*) *lynesi* forms part of the Bar-throated Apalis *A. thoracica* complex, which has radiated into many different races in montane eastern Africa. It is most closely related to the yellow-bellied race (*A. t. flavigularis*) of Zomba and the Mulanje Mountains in adjacent Malawi (Fig. 6). At Namuli, *lynesi* is very common in forest and tall shrubland from 1,270–1,300 m to at least 1,900 m. Some territories measured on Muretha can be as small as 0.5–0.6 ha (forest plus some bracken scrub), but in three patches of 1.0–1.5 ha there was still just one pair. Densities in continuous forest are probably around five pairs/10 ha, and the population must comprise at least 600–700 pairs, in 1,200–1,400 ha of forest, and probably more, as the species also occupies narrow riparian strips and scrub forest not included in this calculation. However, the figure of a minimum of 5,000 pairs advanced by Ryan *et al.* (1999a) appears excessive, and the size of some territories given (0.02 ha) unrealistically small. The smallest-ever occupied territories on the Nyika (by Bar-throated Apalis) studied with colour-ringed birds over three years are still 7–10 times larger than this (Dowsett-Lemaire 1983), and the Namuli Apalises of Muretha appear more widely spaced than their relatives on the Nyika.

Territorial limits were confirmed by using playback of a pre-recorded tape from the Nyika Plateau (race *A. t. youngi*). Pairs of Namuli Apalis reacted strongly to the Nyika tape, coming to within 1–2 m of the recorder, bill-snapping and wing-clapping. The voice of the male sounds identical between *youngi* and *lynesi*, but female Namuli Apalis gives a faster *tititititititi*, similar to of *A. t. flavigularis* from Mulanje. One pair was feeding young in a nest sited in a bush on the edge of forest (23 November).

At Mabu the species is very rare and was found only above 1,380–1,400 m: just one male was heard in forest below the summit (*c.*1,550 m), and two males in forest above the second satellite camp (*c.*1,400 m), the more distant of which appeared to be paired (female heard). Playback at the upper edges of forest below the summit elicited no response. Neither of the unmated birds seemed interested in playback; one male that was followed for >1 hour on 26–27 October circulated over several hectares of forest with many gaps, feeding at edges but also in the shaded interior 1–3 m above the ground. The uneven sex ratio suggests that conditions are suboptimal for the species. Forms of Bar-throated Apalis are usually very common in montane forest, but locally in northern Malawi (as in the Misuku Hills) the species can be uncommon, especially at mid altitudes (Dowsett-Lemaire 1989). Possibly a warm microclimate, combined with a tall forest canopy, is not favourable for this montane apalis, which prefers low-canopy forest and rich shrubland. The population at Mabu must be very small, with perhaps only a few dozen pairs.

White-winged Apalis *Apalis chariessa*
Vulnerable. A male was seen in riparian forest on the Nanchili at 1,200 m, within a small mixed-species party, on 27 November 2007. This species avoids wetter types of mid-altitude forest, as in adjacent Malawi it prefers edges and secondary *Albizia* forest in the Shire Highlands to the wetter *Newtonia* forests on Mount Mulanje (where very rare, 1,000–1,300 m: Dowsett-Lemaire & Dowsett 2006). This Eastern endemic, known otherwise mainly from mid-altitude forest in central Tanzania (Stuart & Jensen 1985, 1987), reaches the southern limit of its range on Mount Chiperone (Benson 1950, Spottiswoode *et al.* 2008). It must be very rare on Namuli (perhaps too wet), and should be searched for in what is left of the riparian forest on the drier side of the mountain. However, given the rapid destruction of this habitat the species is in danger of extirpation. It was not found on Mabu.

Playback often elicited vocal reactions from Black-headed Apalis *A. melanocephala*, which is common on both Mabu and Namuli. This may be the result of the superficial resemblance between the piping motifs of these apalises, or due to some form of competition between these two

canopy species. As reactions were obtained even in Manho, where White-winged is very unlikely to occur, the first hypothesis is preferred.

Dapple-throat *Modulatrix orostruthus*
Vulnerable. At Namuli confined to forest above 1,500 or 1,600 m, up to 1,870 m in Ukalini and Manho; one pair occupied two adjacent patches on Muretha totalling 2.5 ha. Nothing has been published on feeding behaviour (Keith *et al.* 1992): individuals were seen feeding on the ground, hopping and turning leaves like a thrush. Sings low down, on small saplings, fallen logs or just a hump on the ground. The alarm-call is a striking modulated whistle, also given at the end of songs by birds counter-singing with neighbours or reacting to playback. Individuals possess at least 2–3 song types (tape-recorded); the Tanzanian populations produce slightly different motifs (as on a tape from the Udzungwas, provided by C. Carter), as is to be expected of distant populations. The timbre and style of song are strongly reminiscent of the melodious song of another montane babbler, Grey-chested Illadopsis *Kakamega poliothorax*, a remark also made by B. Finch *in* Stevenson & Fanshawe (2002). The species does not occupy the whole forest as it is partial to areas with high densities of saplings under a fairly closed canopy; it seems to avoid *Mimulopsis* or other Acanthaceae thickets (unlike Spot-throat *M. stictigula* elsewhere, as in the Misuku Hills of northern Malawi, Dowsett-Lemaire 1989). The population in Manho and Ukalini could be 300–500 pairs, based on an estimate of 3–5 pairs / 10 ha. Ryan *et al.*'s (1999a) estimate of 'low thousands' appears too high, ignoring the fact that distribution is not uniform in the large Manho Forest.

Its discovery on Mabu in 2008 represents a small range extension, but the species is rare and local, above 1,380 m. One tape-recorded near the path to the summit at *c.*1,500 m seemed strongly territorial, while another sang that briefly near our camp (1,400 m) was presumably a wanderer. Only two territorial birds were found above the second satellite camp, just below and at 1,400 m. One of these was followed for several hours on 26–27 October, circulating over at least 5–6 ha, and was apparently paired. The bird's scarcity at Mabu is difficult to explain. It may be related, in part, to the disturbance of the canopy and unsuitable tangled understorey: this is striking around the second satellite camp and is the result of temporary human habitations used during the civil war. As with Namuli Apalis, the overall population could be quite small: a few dozen pairs, perhaps up to 100, but further surveys are necessary to verify this.

Green-headed Oriole *Oriolus chlorocephalus*
Fairly common at Mabu in the canopy and subcanopy at 980–1,300 m, once at 1,400 m. A wanderer in riparian forest was at 450 m; the following day it was at *c.*400 m. The population of this localised Eastern endemic must be important at Mabu, which is reassuring given that part of the small Malawi population was exterminated through the deforestation of Thyolo Mountain. It also occurs on Mount Chiperone (Benson 1950, Spottiswoode *et al.* 2008).

Bertram's Weaver *Ploceus bertrandi*
Very small numbers of this forest-edge species were found on Namuli in 2007 (Demey 2007; pers. obs.), including a pair at 1,580 m near a nest from the previous year (suspended from the frond of a *Cyathea* tree fern at a height of 2.5 m). One pair was seen by C. Spottiswoode (*in litt.* 2009) at 920 m at the ecotone of forest and *Syzygium* woodland at Mabu. This montane endemic reaches the southern limit of its range on Chiperone.

Green Twinspot *Mandingoa nitidula*
Very common at Mabu in forest and second growth at 400–1,550 m. Scarce in most parts of its range, it is exceptionally numerous here with hundreds seen in a day near the tea house, including many pairs and families coming to drink in a small stream. Outside or on the edge of forest it seemed to feed mainly on a small-seeded *Panicum*. Inside forest it was found more at high levels or in clearings, feeding on inflorescences and small seeds of creepers. The species is also locally common in southern Malawi, as in the Shire Highlands and on Mulanje, where it occurs to 1,550 m on the drier slopes. The reason why it should become so scarce further west, as in Zambia (Dowsett *et al.* 2008), is unknown.

Breeding activity

Over 50 breeding records were obtained on Namuli in November 2007, for 20 species. Details of these and earlier records can be found in Dowsett-Lemaire (2008b). The breeding season was much less advanced at Mabu in October, but several species had started to lay or were feeding young (see Dowsett-Lemaire & Dowsett 2009).

Bird densities at Namuli

Territory sizes of forest birds are easier to measure in fragmented forest, and this was done on Muretha Plateau: territory boundaries were measured in three patches (of 1.0, 1.4 and 1.5 ha) over a period of 12 hours on two mornings, and additional information on selected species was obtained in a few other patches (0.5–1.5 ha). Birds were very active in the early morning and counter-singing between neighbouring pairs was frequent. Playback was used in some cases to confirm territorial boundaries, and the results are shown in Table 1.

These figures compare well with those from a three-year study of a large sample of birds of the same or closely related species on the Nyika Plateau, where most passerines were colour-ringed and individually recognisable (Dowsett-Lemaire 1983). Territory sizes of Bar-throated Apalis can be smaller (with usually two pairs / ha) and densities of Eastern Mountain Greenbul on the Nyika are twice as high, but this is in the absence of its competitor the Stripe-cheeked (see above).

Table 1. Territory sizes of 14 bird species measured in small patches (0.5, or 0.7 ha with bracken scrub, to 1.5 ha) on the Muretha Plateau.

Tableau 1. Dimension des territoires de 14 espèces mesurée dans des petites forêts (0.5, ou 0.7 ha avec broussailles adjacentes, et jusqu'à 1.5 ha) sur le Plateau de Muretha.

Species	Territory size	Sample
Livingstone's Turaco *Tauraco livingstonii*	4–5 ha	2 pairs
Eastern Mountain Greenbul *Andropadus nigriceps*	1.0–1.5 ha	4 pairs
Stripe-cheeked Greenbul *Andropadus milanjensis*	1.0–1.5 ha	4 pairs
Cabanis's Greenbul *Phyllastrephus cabanisi*	1.0–1.5 ha	4 pairs
White-starred Robin *Pogonocichla stellata*	0.7–1.0 ha	5 pairs
Olive-flanked Robin Chat *Cossypha anomala*	1.0–1.5 ha	4 pairs
Cholo Alethe *Alethe choloensis*	1.5 ha	1 unmated bird
Olive Thrush *Turdus olivaceus*	2.9 ha	1 unmated bird
Evergreen Forest Warbler *Bradypterus lopezi*	0.7–1.5 ha	4 pairs
Namuli Apalis *Apalis (thoracica) lynesi*	0.7–1.5 ha	4 pairs
Black-headed Apalis *Apalis melanocephala*	1.0–1.5 ha	3 pairs
Cape (Malawi) Batis *Batis capensis dimorpha*	0.7–1.0 ha	5 pairs
White-tailed Crested Flycatcher *Elminia albonotata*	1.0–1.5 ha	3 pairs
Dapple-throat *Modulatrix orostruthus*	2.5 ha	1 pair

Otherwise, figures for other passerines are very similar. For Schalow's Turaco *Tauraco schalowi*, a close relative of Livingstone's *T. livingstonii*, the mean territory size is 4 ha, as 39 pairs were known to occupy 43 forest patches totalling 157 ha. What the Nyika study also showed is that, for most species, territory sizes are smaller in fragmented forest than in larger blocks, due to the edge effect or inherent aggressive behaviour. Thus, it would be wrong to transfer the densities observed on Muretha to the larger Ukalini and Manho Forests. Even if pairs of Namuli Apalises can occupy some patches as small as 0.5–0.7 ha, they will not tolerate a neighbouring pair in patches of up to 1.5 ha, and it is unlikely that there would be more than one pair in 2 ha of continuous forest. Apalises spend much time feeding at sunny edges, as do flycatchers (Cape Batis *Batis capensis* etc.) and space themselves more in larger blocks of forest. While White-chested Alethes *Alethe fuelleborni* on the Nyika can breed in a patch as small as 0.5–1.0 ha, when an ant colony moves in the overall densities are low, e.g. two pairs in 8–10 ha forest blocks, and a 25-ha portion of Chowo Forest contained 5–6 pairs. (Incidentally Collar (2005) wrote that Cholo Alethe could persist in a 'patch as small as 0.5 ha so long as ant nest present', but there was confusion over the species involved as this was never claimed for Cholo, but for White-chested Alethe: Dowsett-Lemaire 1989).

Ryan *et al.* (1999a) counted birds at 72 points for five minutes each and estimated the distance at which the birds had been seen or heard (under or over 20 m). They did this near the Nanchili stream and in Ukalini Forest. The 'two counting band' method of Bibby *et al.* (1992) was then used to produce actual densities. The limitations and assumptions of the method were not discussed by Bibby *et al.* (1992). Ryan *et al.* (1999a: 321) produced a table of densities for the commoner 18 species. Surprisingly, Olive-flanked Robin Chat *Cossypha anomala*, one of the noisiest and commonest birds on Namuli (including Ukalini), is not listed. Figures for common small passerines are of the order of 5–10 birds or pairs per ha (e.g. 12.6 in Namuli Apalis, 10.6 in Stripe-cheeked Greenbul, 9.7 in White-tailed Crested Flycatcher *Elminia albonotata*, 8.6 in Cholo Alethe, 8.4 in White-starred Robin, 2.4 in Dapple-throat etc.). Even for a large non-passerine such as

Livingstone's Turaco, they produced as many as 5.6 birds or pairs / ha.

Compared to territory sizes measured on Muretha and in the Nyika study, these figures are 5–30 times higher, depending on the species. This suggests an inherent problem with the methodology, evaluation of distances and also probably with the formula used. This shows the danger of relying on complicated calculations in the absence of control against actual figures, and led the authors to propose unrealistic figures of overall numbers of threatened species, e.g. Cholo Alethe (*cf.* species account).

Biogeographical considerations

Table 2 shows the known distribution of Afromontane bird species and selected Eastern endemics on the five main massifs of the region, from north to south, i.e. Namuli to Chiperone. Thyolo Mountain has been included, despite recent deforestation, because it had a unique biogeographical and conservation value for several threatened species: the forest covered *c.*1,000 ha (in one block) at 1,160–1,462 m until the mid 1990s. Most records for Mount Chiperone come from Benson (1950) and are based on a brief collecting expedition by J. Makawa in July 1950, the rest from Spottiswoode *et al.* (2008). The mention of Cabanis's Greenbul (race *placidus*) comes from a specimen collected by J. Makawa (W. R. J. Dean & R. Prŷs-Jones *in litt.* 2009) but missed from the 1950 publication. Chorographical status follows Dowsett-Lemaire & Dowsett (2006).

The largest and tallest massif, Mulanje, has the highest number of Afromontane species, 31 (if one includes the sub-Afromontane Spotted Ground Thrush), and Namuli comes a close second, with 27 species. Only one species from Namuli (Dapple-throat) is missing from Mulanje, and Namuli Apalis is replaced by the *flavigularis* race of Bar-throated; similarly, the montane Moustached Green Tinkerbird on Mulanje is replaced by the closely related Eastern Green Tinkerbird on Namuli. Olive Bushshrike *Malaconotus olivaceus* extends from southern Africa north to Mulanje, Zomba and the Kirk Range (Dowsett-Lemaire & Dowsett 2006) but does not reach Namuli. The absence from Namuli of the remaining three species can be explained in terms of habitat. Striped Flufftail is almost certainly absent because

Table 2. Afromontane (near-)endemic and selected Eastern endemic bird species present on Namuli, Mulanje, Thyolo, Mabu and Chiperone Mountains. Most are forest birds, but NF (not forest) after the species name indicates that the habitat consists of grassland, rocks, montane shrubland or forest edges.

Tableau 2. Distribution des espèces Afromontagnardes (endémiques ou presque) et de certaines espèces Orientales dans les massifs de Namuli, Mulanje, Thyolo, Mabu et Chiperone. La plupart des espèces sont en forêt, mais NF (pas en forêt) après le nom de l'espèce se réfère à des milieux ouverts, prairies et milieux arbustifs de montagne, zones rocheuses et lisières forestières.

	Namuli	Mulanje	Thyolo	Mabu	Chiperone
Afromontane species					
Striped Flufftail *Sarothrura rufa* (NF)	?	x	–	–	–
Rameron Pigeon *Columba arquatrix*	x	x	x	x	x
Lemon Dove *Aplopelia larvata*	x	x	x	x	x
Cape Eagle Owl *Bubo capensis* (NF)	x	x	-	–	–
Scarce Swift *Schoutedenapus myoptilus*	x	x	x	–	–
Bar-tailed Trogon *Apaloderma vittatum*	x	x	x	x	x
Moustached Green Tinkerbird *Pogoniulus leucomystax*	–	x	–	–	?
Blue Swallow *Hirundo atrocaerulea* (NF)	–	x	–	–	–
Grey Cuckooshrike *Coracina caesia*	–	–	x	x	x
Eastern Mountain Greenbul *Andropadus nigriceps*	x	x	–	–	–
Stripe-cheeked Greenbul *Andropadus milanjensis*	x	x	x	x	x
Cabanis's Greenbul *Phyllastrephus cabanisi*	x	x	x	x	x
White-starred Robin *Pogonocichla stellata*	x	x	x	x	x
Swynnerton's Robin *Swynnertonia swynnertoni*	–	–	–	x	–
Olive-flanked Robin Chat *Cossypha anomala*	x	x	–	–	x
Cape Robin Chat *Cossypha caffra* (NF)	x	x	–	x	–
Cholo Alethe *Alethe choloensis*	x	x	x	x	x
Olive Thrush *Turdus olivaceus*	x	x	x	–	x
Orange Ground Thrush *Zoothera gurneyi*	x	x	x	–	x
Cinnamon Bracken Warbler *Bradypterus cinnamomeus* (NF)	–	x	–	–	–
Evergreen Forest Warbler *Bradypterus lopezi*	x	x	x	–	x
Yellow-throated Warbler *Phylloscopus ruficapilla*	x	x	x	x	x
Wailing Cisticola *Cisticola lais* (NF)	x	x	–	x	–
Bar-throated Apalis *Apalis thoracica*	–	x	–	–	–
Namuli Apalis *Apalis (thoracica) lynesi*	x	–	–	x	–
Cape (Malawi) Batis *Batis capensis dimorpha*	x	x	x	x	x
White-tailed Crested Flycatcher *Elminia albonotata*	x	x	x	–	x
Dapple-throat *Modulatrix orostruthus*	x	–	–	x	–
Eastern Double-collared Sunbird *Cinnyris mediocris*	x	x	–	–	x
Olive Bushshrike *Malaconotus olivaceus*	–	x	–	–	–
Bertram's Weaver *Ploceus bertrandi* (NF)	x	x	x	x	x
Red-faced Crimsonwing *Cryptospiza reichenovii*	x	x	x	–	x
Swee Waxbill *Estrilda melanotis* (NF)	x	x	x	x	x
African Citril *Serinus citrinelloides* (NF)	x	x	x	–	x
Sub-Afromontane species					
Spotted Ground Thrush *Zoothera guttata*	x	x	x	x	–
Selected Eastern species					
Southern Banded Snake Eagle *Circaetus fasciolatus*	–	–	–	x	–
White-eared Barbet *Stactolaema leucotis*	x	x	x	x	x
Green Barbet *Stactolaema olivacea*	x	–	x	x	–
Eastern Green Tinkerbird *Pogoniulus simplex*	x	–	–	–	?
East Coast Akalat *Sheppardia gunningi*	–	–	–	x	–
White-winged Apalis *Apalis chariessa*	x	x	x	–	x
Green-headed Oriole *Oriolus chlorocephalus*	–	–	x	x	x

of the nature of the grassland. Similarly there is apparently no suitable habitat for Blue Swallow *Hirundo atrocaerulea*: the rocky or peaty nature of the soils means that rain water immediately runs off and fills every ditch, thus depriving the bird of safe nest sites in the form of dry stream banks and overhangs. An isolated population of Cinnamon Bracken Warbler *Bradypterus cinnamomeus* occurs in Mulanje's extensive shrublands. On Namuli second growth is much less extensive and considerably impoverished floristically: thus, this habitat is occupied by its congener, Evergreen Forest Warbler *B. lopezi*. Many pairs were found to extend their territories from forest into adjacent bracken and scrub, an example of niche expansion in the absence of competition.

The total number of Afromontane birds on Mabu currently known is 18 species, and the lower total is to be expected as there is hardly any montane grassland or shrubland (hence species like Blue Swallow cannot occur) and the areas covered by Afromontane forest (as opposed to mid-altitude forest) are relatively small. A few high-altitude montane forest birds appear to be absent (e.g. Olive-flanked Robin Chat, White-tailed Crested Flycatcher, Eastern Double-collared Sunbird *Cinnyris mediocris*). The absence of Evergreen Forest Warbler is more surprising as it is common in mid-altitude forest in south-east Malawi and reaches Mount Chiperone. In other parts of Malawi, however, it can be rare in this forest type (e.g. at Ntchisi). Even more surprising is the apparent absence of Orange Thrush, as this species is common in mid-altitude forest elsewhere in the region. It is possible that further exploration of the high-altitude sections of the forest will reveal the presence of some additional, discreet Afromontane species such as Red-faced Crimsonwing *Cryptospiza reichenovii*; the intra-African migrant Scarce Swift could have been missed for other reasons (see species account).

Within the Tanzania–Malawi group Afromontane avifaunas are characterised by a general impoverishment from north to south (Dowsett-Lemaire 1989: 56, 80). Seven species reach the southern limits of their ranges within this region, all on Mount Chiperone (Bar-tailed Trogon *Apaloderma vittatum*, Cabanis's Greenbul, Olive-flanked Robin Chat, Evergreen Forest Warbler, Eastern Double-collared Sunbird, Bertram's Weaver and African Citril *Serinus citrinelloides*) as well as the race *dimorpha* of Cape Batis, considered by some a separate species. Cholo Alethe, endemic to the region, also reaches Mount Chiperone. Moustached Green Tinkerbird may not reach any further south than Mulanje, but an unidentified green tinkerbird (subgenus *Viridibucco*) was reported by Makawa from Mount Chiperone (Benson 1950). In any case Mulanje represents the southern limit for Eastern Mountain Greenbul and Cinnamon Bracken Warbler, while Dapple-throat, which 'skips' Malawi altogether, reaches Mabu, a small extension of range from Namuli.

A small cluster of species (Afromontane or Eastern or otherwise) are shared between Thyolo, Mabu and Chiperone: Eastern Bronze-naped Pigeon, Grey Cuckooshrike and Green-headed Oriole. They all reappear on Mount Gorongosa, *c.*300–350 km to the south-west (Oatley & Tinley 1989). Mount Chiperone remains under-explored, especially the higher levels not reached by Spottiswoode *et al.* (2008): in addition to identifying the green tinkerbird, a form of Bar-throated Apalis (the yellow-bellied race of Mulanje or Namuli Apalis) should be sought in the Afromontane forest there.

The presence of East Coast Akalat at Mabu (up to 1,350 m) suggests that the local microclimate is fairly warm. The distribution of some lowland forest species on Mabu also supports this assumption: Eastern Nicator *Nicator gularis*, Red-capped Robin Chat *Cossypha natalensis* and Blue-mantled Flycatcher *Trochocercus cyanomelas* all reach 1,400 m, whereas on the wet, southern slopes of Mulanje they do not ascend above 800–950 m. On Namuli the nicator does not ascend above 1,160 m (J. Graham *in litt.* 2008; the qualification of this bulbul as being common around 1,250 m in Ryan *et al.* 1999b was in error), while Red-capped Robin Chat reaches 1,200 m and the flycatcher has not been recorded (if it occurs, it would be below 1,150 m). Similarly, the warm microclimate of Mabu could explain the scarcity of montane species such as Namuli Apalis and Dapple-throat, whereas on Namuli the apalis is already very common at 1,400–1,600 m. Even Cape Batis (with scattered pairs above 1,350–1,400 m) is much less common at Mabu than on Namuli at a similar altitude.

The conservation status of the Namuli and Mabu forests

Namuli

Forest on the lower slopes of Mount Namuli has been reduced by fires and localised logging for decades. Vincent (1933) mentioned iron smelting as an important activity in the area, which would also have caused some forest losses. The hunting of mammals throughout the massif has been so intense that Bushpigs *Potamochoerus porcus* (common in Vincent's days) have totally disappeared, to be replaced by domestic pigs. No Klipspringer *Oreotragus oreotragus* or even Rock Hyrax *Procavia capensis* are to be seen anywhere on the granitic domes, which are occupied instead by domestic goats. In 1932 Vincent's base camp at 1,400 m was adjacent to 'high forest' or 'primeval forest', where such species as Bar-tailed Trogon and Green Barbet were collected; these could not survive in the narrow riparian strips left today. The lower limit of dense forest now is nearer 1,600 m. Aerial photos taken in 1969 show that mid-altitude forest had already been reduced to broad riparian strips. By 2007 numerous signs of deforestation were visible far from the streams, in the form of *Harungana* forest regrowth, or scattered forest trees dying amid old fields. Pressure on land from human settlements around the foothills is increasing, and shifting cultivation at 1,200–1,300 m has in places reached the very edge of the Nanchili and Malema streams, causing erosion. Ryan *et al.* (1999a) reported that there was no forest encroachment above 1,500 m in 1998, but this is no longer true. A 5-ha fragment of forest in Ukalini has been cleared at 1,580 m, and there is a considerable problem of timber extraction for planks (of *Faurea wentzeliana*) in both Ukalini and Manho Forests. In Ukalini, the number of felled *Faurea* is particularly high and clearly unsustainable, creating many gaps in the canopy. In Manho, two small areas of forest at 1,700 m or just above were also clear-felled in 2007 to plant potatoes. A year later, in November 2008, the situation had worsened considerably as there were many more sections of Manho Forest cleared for gardens, some of them extensive (J. Bayliss pers. comm. 2009). Potatoes are sold in Gurue market and are grown more for cash than for subsistence.

Some species of conservation concern that occur at high densities at mid altitude must have seriously declined due to deforestation at that level, e.g. Cholo Alethe and, probably, Green Barbet. White-winged Apalis, already very rare on the southern slopes, has little chance of surviving on Namuli. The fate of other threatened species like Dapple-throat, Spotted Ground Thrush and Namuli Apalis was of less concern until recently, but the degradation of Manho Forest, and the heavy logging of *Faurea* in Ukalini is very worrying. Manho is the same size as the forest on Thyolo Mountain in Malawi, most of which was cleared by farmers in a period of five years.

Although not on the Red List, two high-montane species occur on Namuli in (very) small numbers, and need special attention. These are Eastern Mountain Greenbul and especially Olive Thrush, which are restricted to a few small patches of high-altitude forest on Muretha and (the greenbul) at the upper edges of Manho Forest. One of the main threats to these may be climatic, if indeed the climate is going to become warmer or drier in the region, but in the more immediate future these species are also very vulnerable to any amount of disturbance through collecting. Too many collecting expeditions from overseas take no account of the small numbers of many species in isolated montane forests; this has been a serious problem in adjacent Malawi since the early 2000s.

Mabu

The forest at Mabu is under much less pressure than at Namuli. The human population in the foothills is smaller and more scattered, and at present shifting cultivation is practised entirely within the woodland areas. The main damage to the forest is in the form of dry-season bush fires; the prolonged drought in October wrought some real damage to forest edges at 800–1,000 m. Hunting for mammals or large birds is also a problem, and has apparently led to the near-extinction of Crested Guineafowl (as admitted by the hunter interviewed). A large expanse of lowland forest or transition woodland was replaced by tea plantations at low levels but, surprisingly, some forest understorey birds have adapted to tea, especially East Coast Akalat and Blue-mantled Flycatcher. It is possible that some of the overgrown tea plantations will be replaced

by new crops, but there is no immediate plan for this (J. Timberlake pers. comm. 2009), and the low cost of tea makes renewed exploitation of tea on a large scale unlikely.

Conclusion

The forests of both Namuli and Mabu Mountains are of extreme importance for the conservation of several threatened and isolated bird species. The forest at Mabu is considerably more extensive and must now be considered a key area for the Cholo Alethe, with a population at least equivalent in size to that on Mount Mulanje in Malawi. Due to its sheer size and remoteness, it must also be the most important refuge for the *belcheri* race of Green Barbet and several other species in the region, above all East Coast Akalat and Swynnerton's Robin. But, as most of the forest is at mid altitudes and the local microclimate appears relatively warm, Dapple-throat and Namuli Apalis are found only at the upper levels and in such low densities that their survival in the long term may not be guaranteed in the face of possible climate change. For these two species alone, the conservation of the Afromontane forest on Namuli must be a priority. Further surveys are needed, in other high sections of the forest at Mabu, and also on several other peaks near Namuli that bear patches of forest. Part of the Namuli plateau itself has yet to be explored, especially the plateau *c.*5 km south-east of Ukalini, on the other side of the Malema River; much of this plateau reaches *c.*1,500 m and is covered with forest patches. The forest on Mount Chiperone, especially the upper levels at 1,500–2,000 m, is still intact (J. Bayliss pers. comm. 2008) and remains largely unexplored. The Field Museum of Natural History (Chicago) collected birds here at *c.*1,600 m in late 2004, but the results are unavailable (J. Bayliss & J. Timberlake pers. comm. 2008–09).

The forests on Namuli and Mabu receive no legal protection, and the Mozambique government is yet to draft conservation legislation for the country's natural habitats. Any legal dispositions likely to be taken should be combined with agricultural projects aimed at helping local communities, especially to improve the yield of their crops closer to settlements. An agro-industrial business operating in Mozambique was at one stage interested in putting money into conservation at Namuli, but unfortunately they pulled out in 2009. Every effort should be made to resurrect interest, as the situation at Namuli requires urgent action.

Acknowledgements

I thank Jonathan Timberlake, Paul Smith and BirdLife International for inviting me to undertake these surveys, and the Darwin Initiative Award 15/036 and the 'Fondation pour favoriser les recherches scientifiques en Afrique' (FFRSA, Brussels) for meeting my expenses. Claire Spottiswoode kindly provided details of unpublished observations at Mabu, as well as a copy of the cassette of bird recordings made by Eric Herrmann in December 2005 at Mabu and Thyolo. I am grateful to Lincoln Fishpool for providing photographs of *Apalis* warblers from the Natural History Museum (Tring) and for comments on the text.

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Received 23 October 2009; revision accepted 7 June 2010.

Appendix 1. Coordinates of main localities at Namuli, Mabu and in the region.

Annexe 1. Coordonnées des localités principales à Namuli, Mabu et dans la région.

Malawi:	
Mount Mulanje (3,002 m)	15°57'S 35°35'E
Thyolo Mountain (1,462 m)	16°04'S 35°02'E
Mozambique:	
Mount Chiperone (2,054 m)	16°29'S 35°43'E
Namuli:	
Namuli peak (2,419 m)	15°22'S 37°03'E
Muretha Plateau (1,860 m)	15°23'S 37°02'E
Malema River bridge (1,250 m)	15°24'S 37°04'E
Mabu:	
Mabu peak (1,710 m)	16°18'S 36°24'E
Main forest camp (980 m)	16°17'S 36°24'E
Camp at tea house (540 m)	16°18'S 36°25'E

Appendix 2. Bird species recorded at Mabu.

Species marked * were noted by other observers, followed by their initials: CS (C. Spottiswoode in December 2005), LF (L. D. C. Fishpool), MC (M. Curran), OK (hunter Ofelio Kavaliyawo). Habitats: F = forest; FE = forest edge; W = transition woodland; G = grassland and scrub; R = granitic dome; H = commensal (tea house). Altitudinal limits: L = 400–1,000 m; M = 1,000–1,400 m; H = c.1,400 m and above. Status: C = common (recorded daily in relevant habitat); F = fairly frequent; U = few records; R = rare or vagrant. Dates of Palearctic migrants appear in brackets after name.

Annexe 2. Liste des espèces observées à Mabu.

Les espèces marquées d'un astérisque ont été notées par d'autres observateurs, dont les initiales suivent : CS (C. Spottiwoode en décembre 2005), LF (L. D. C. Fishpool), MC (M. Curran), OK (Ofelio Kavaliyawo). Habitats : F = forêt dense ; FE = lisières forestières ; W = forêt claire de transition ; G = formation herbeuse et arbustive ; R = dôme granitique ; H = milieu commensal (bâtiments). Limites altitudinales : L = 400–1.000 m ; M = 1.000–1.400 m ; H = c.1.400 m et au-dessus. Statut : C = commun (noté tous les jours dans le milieu approprié) ; F = assez fréquent ; U = peu de données ; R = rare ou accidentel. Les dates de migrateurs paléarctiques apparaissent entre parenthèses après le nom.

Species	Habitat	Altitudinal limits	Status
Accipitridae			
African Cuckoo Hawk *Aviceda cuculoides*	F/W	L	R
European Honey Buzzard *Pernis apivorus* (19 Oct, *Dec, CS)	F	L	R
Palm-nut Vulture *Gypohierax angolensis*	F	H	R
Brown Snake Eagle *Circaetus cinereus*	F/W	L	F
Southern Banded Snake Eagle *Circaetus fasciolatus*	F/W	L/M/H	F
African Harrier Hawk *Polyboroides typus*	F/W	L/M/H	F
African Goshawk *Accipiter tachiro*	F	L/M/H	C
Lizard Buzzard *Kaupifalco monogrammicus*	W	L	R
Common Buzzard *Buteo buteo* (30 Oct, *Dec, CS)	W	L	R
*Augur Buzzard *Buteo augur* (LF)	W	L	R
Lesser Spotted Eagle *Aquila pomarina* (23 Oct)	F/R	H	R
Ayres's Hawk Eagle *Hieraaetus ayresii*	F/W	L	U
Crowned Eagle *Stephanoaetus coronatus*	F	M/H	C
Falconidae			
Peregrine Falcon *Falco peregrinus*	R	H	F
Phasianidae			
Hildebrandt's Francolin *Francolinus hildebrandti*	FE/G	L/M/H	F
Red-necked Spurfowl *Francolinus afer*	G	L	F
Numididae			
*Crested Guineafowl *Guttera pucherani* (OK)	F	L	R
Columbidae			
Rameron Pigeon *Columba arquatrix*	F	H	C
Eastern Bronze-naped Pigeon *Columba delegorguei*	F	M	C
Lemon Dove *Aplopelia larvata*	F	H	C
Blue-spotted Wood Dove *Turtur afer*	F/W	L	F
Tambourine Dove *Turtur tympanistria*	F	L/M/H	C
Psittacidae			
*Brown-necked Parrot *Poicephalus robustus* (OK)	F/W	L/M/H	U
Musophagidae			
Livingstone's Turaco *Tauraco livingstonii*	F	L/M/H	C
Cuculidae			
Red-chested Cuckoo *Cuculus solitarius*	F/W	L	R
African Emerald Cuckoo *Chrysococcyx cupreus*	F	L	R
Klaas's Cuckoo *Chrysococcyx klaas*	F/W	L	F
Yellowbill *Ceuthmochares aereus*	F	L	R
Burchell's Coucal *Centropus superciliosus*	FE/G	L/M	C
Tytonidae			
Barn Owl *Tyto alba*	W/H	L	U
Strigidae			
Spotted Eagle Owl *Bubo africanus*	W/R	L	U
African Wood Owl *Strix woodfordii*	F	L/M/H	C
Apodidae			
African Palm Swift *Cypsiurus parvus*	W	L	U
Common Swift *Apus apus* (29 Oct)	W	L	R
White-rumped Swift *Apus caffer*	W/H	L	U
Mottled Swift *Tachymarptis aequatorialis*	R	L/H	F
Alpine Swift *Tachymarptis melba*	R	H	U
Trogonidae			
Narina's Trogon *Apaloderma narina*	F	L/M	C
Bar-tailed Trogon *Apaloderma vittatum*	F	H	C
Alcedinidae			
African Pygmy Kingfisher *Ceyx pictus*	FE	L	F
Grey-headed Kingfisher *Halcyon leucocephala*	W	L	R
Meropidae			
Little Bee-eater *Merops pusillus*	G	L	R
Madagascar Bee-eater *Merops superciliosus*	W	L	U
Eurasian Bee-eater *Merops apiaster* (11–28 Oct)	F/W	L/M/H	F
Coraciidae			
Broad-billed Roller *Eurystomus glaucurus*	W	L	U
Bucerotidae			
Crowned Hornbill *Tockus alboterminatus*	F/W	L	U
Silvery-cheeked Hornbill *Bycanistes brevis*	F	L/M/H	C
Lybiidae			
White-eared Barbet *Stactolaema leucotis*	F	L/M	U
Green Barbet *Stactolaema olivacea*	F	L/M/H	C
Yellow-rumped Tinkerbird *Pogoniulus bilineatus*	F/W	L/M/H	C
Indicatoridae			
Scaly-throated Honeyguide *Indicator variegatus*	F/W	L/M	F
Lesser Honeyguide *Indicator minor*	F	L	U

Species	Habitat	Altitudinal limits	Status
Pallid Honeyguide *Indicator meliphilus*	F	L/M	U
Picidae			
Golden-tailed Woodpecker *Campethera abingoni*	F	M/H	U
Cardinal Woodpecker *Dendropicos fuscescens*	W/F	L	U
Eurylaimidae			
African Broadbill *Smithornis capensis*	F	L	F
Hirundinidae			
Black Saw-wing *Psalidoprocne pristoptera*	FE	L/M	F
Lesser Striped Swallow *Cecropis abyssinica*	W/H	L	F
Barn Swallow *Hirundo rustica* (from 23 Oct)	W/F	L/M/H	F
Eurasian House Martin *Delichon urbicum* (28–29 Oct)	R/W	L/H	F
Motacillidae			
*Mountain Wagtail *Motacilla clara* (MC)	R/F	L	U
Striped Pipit *Anthus lineiventris*	R/G	H	U
Campephagidae			
Grey Cuckooshrike *Coracina caesia*	F	M	F
Pycnonotidae			
Stripe-cheeked Greenbul *Andropadus milanjensis*	F	M/H	C
Little Greenbul *Andropadus virens*	F	L/M/H	C
*Yellow-bellied Greenbul *Chlorocichla flaviventris* (CS)	F	L	U
Grey-olive Greenbul *Phyllastrephus cerviniventris*	F	L	F
Cabanis's Greenbul *Phyllastrephus cabanisi*	F	L/M/H	C
Yellow-streaked Greenbul *Phyllastrephus flavostriatus*	F	L/M/H	C
Common Bulbul *Pycnonotus barbatus*	W/FE	L/M/H	C
Eastern Nicator *Nicator gularis*	F	L/M	C
Turdidae			
White-starred Robin *Pogonocichla stellata*	F	H	C
Swynnerton's Robin *Swynnertonia swynnertoni*	F	H	F
East Coast Akalat *Sheppardia gunningi*	F	L/M	C
Cape Robin Chat *Cossypha caffra*	G/FE	H	F
Red-capped Robin Chat *Cossypha natalensis*	F	L/H	C
Eastern Bearded Scrub Robin *Cercotrichas quadrivirgata*	F	L	C
White-browed Scrub Robin *Cercotrichas leucophrys*	W	L	U
Cholo Alethe *Alethe choloensis*	F	M/H	C
Spotted Ground Thrush *Zoothera guttata*	F	M	R
Kurrichane Thrush *Turdus libonyanus*	W	L	R
Sylviidae			
Red-faced Crombec *Sylvietta whytii*	W/FE	L	F
Yellow-throated Warbler *Phylloscopus ruficapilla*	F	M/H	C
Garden Warbler *Sylvia borin* (30 Oct)	F	L	R
Cisticolidae			
Wailing Cisticola *Cisticola lais*	G/R	H	C
Red-faced Cisticola *Cisticola erythrops*	G	L	F
Tawny-flanked Prinia *Prinia subflava*	G	L	F
Red-winged Warbler *Heliolais erythropterus*	G	L	U
Yellow-breasted Apalis *Apalis flavida*	F	L	F
Namuli Apalis *Apalis (thoracica) lynesi*	F	H	R
Black-headed Apalis *Apalis melanocephala*	F	L/M/H	C
Grey-backed Camaroptera *Camaroptera brachyura*	W/F	L/M	C

Species	Habitat	Altitudinal limits	Status
Muscicapidae			
*Spotted Flycatcher *Muscicapa striata* (CS, 11 Dec)	W	L	U
Ashy Flycatcher *Muscicapa caerulescens*	W/FE	L	C
Lead-coloured Flycatcher *Myioparus plumbeus*	W/F	L/M	F
Platyteiridae			
Cape (Malawi) Batis *Batis capensis dimorpha*	F	H	U
Mozambique Batis *Batis soror*	W/FE	L/M	F
Monarchidae			
Blue-mantled Flycatcher *Trochocercus cyanomelas*	F	L/M	C
African Paradise Flycatcher *Terpsiphone viridis*	F	M	U
Timaliidae			
Dapple-throat *Modulatrix orostruthus*	F	H	R
Paridae			
Rufous-bellied Tit *Parus rufiventris*	W	L	R
Nectariniidae			
Violet-backed Sunbird *Anthreptes longuemarei*	F	L	R
Collared Sunbird *Hedydipna collaris*	F	L	C
Olive Sunbird *Cyanomitra olivacea*	F	L/M/H	C
Amethyst Sunbird *Chalcomitra amethystina*	W	L	F
Yellow-bellied Sunbird *Cinnyris venustus*	W,G	L/H	F
Zosteropidae			
Yellow White-eye *Zosterops senegalensis*	F/W	L/M/H	C
Oriolidae			
Green-headed Oriole *Oriolus chlorocephalus*	F	(L)/M	C
Malaconotidae			
Black-fronted Bushshrike *Malaconotus nigrifrons*	F	M	C
Brown-headed Tchagra *Tchagra australis*	G/W	L	F
Southern Puffback *Dryoscopus cubla*	W/F	L/M	C
Tropical Boubou *Laniarius aethiopicus*	FE/G	L/M/H	F
Dicruridae			
Square-tailed Drongo *Dicrurus ludwigii*	F	L/M	C
Corvidae			
White-necked Raven *Corvus albicollis*	R/W	L/M/H	F
Sturnidae			
Red-winged Starling *Onychognathus morio*	R/FE	M/H	U
Ploceidae			
*Bertram's Weaver *Ploceus bertrandi* (CS)	FE/W	L	R
Spectacled Weaver *Ploceus ocularis*	FE	L	U
Dark-backed Weaver *Ploceus bicolor*	F	L/M/H	C
*Grosbeak Weaver *Amblyospiza albifrons* (CS)	FE	L	R
Estrildidae			
Green Twinspot *Mandingoa nitidula*	F/FE	L/M/H	C
Blue-billed Firefinch *Lagonosticta rubricata*	FE	L	U
Swee Waxbill *Estrilda melanotis*	R/G	H	R
Common Waxbill *Estrilda astrild*	G	L	C
Bronze Mannikin *Spermestes cucullatus*	G	L	C
Red-backed Mannikin *Spermestes bicolor*	FE/W	L	C
Fringillidae			
Yellow-fronted Canary *Serinus mozambicus*	G/W	L	F